VARIABLE ANGLE LAUNCHER COMPLEX,
CONTROL STATION
(Bldg. No. 42012)
California State Highway 39 at the Morris Resevoir
Morris Test Facility
Angeles National Forest
Azuza Vicinity
Los Angeles County
California

HAER NO. CA-169-B

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Western Region
Department of the Interior
San Francisco, California 94107

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HISTORIC AMERICAN ENGINEERING RECORD
VARIABLE ANGLE LAUNCHER COMPLEX,
CONTROL STATION (BUILDING NO. 42012)
HAER NO. CA-169-B

Location: State Highway 39, four miles north of Azuza and twenty miles east of Pasadena, at the Morris Dam Reservoir, in the Angeles National Forest, County of Los Angeles, California.

USGS Azuza and Glendora Quadrangles, Universal Transverse Mercator Coordinates: Zone 11.

Significance: Morris Dam Test Facility (MDTF) was built at the Morris Dam Reservoir for the purpose of obtaining basic hydrodynamic data for use in design and development of Naval Ordinance, particularly air-to-water projectiles. The Variable-Angle Launcher (VAL) and its predecessor, the Fixed-Angle Launcher (FAL) were a consolidated effort between the scientific and military research and development communities. The VAL was the only structure in the nation where full scale, air launched projectiles could be tested at high velocities and variable entry angles into a body of water. MDTF served as a valuable resource during WWII and the Cold War era, spanning over 50 years. This is a unique complex where the setting has been unaltered by major modern development. The design is unique and all of its material is original. The components exhibit high quality, professional workmanship typical of contemporary naval military facilities. The facility has retained its overall feeling and appearance from the Cold War Era maintaining a strong sense of time and place.

Description: The Control Station for the Variable-Angle Launcher (VAL) is located approximately 60 feet east of the launcher bridge and ramp. This structure was built into the side of the steep peninsula jutting into reservoir. Stairs lead down to this secure bunker protected from possible mishap with 9" thick concrete walls, metal clad door and 2⅛" convex, bulletproof glass windows. The main function of the Control Station was to coordinate each launch. James Jennison, Chief Engineer, described this in his report on the VAL as follows:

"It is characteristic of range operations that many remote instrument stations must be coordinated if test data are to be successfully recorded. Much confusion and delay can be caused by inadequate means of communication. To avoid such difficulties, the Variable-Angle Launcher is provided with a well-planned supervisory system of communication, centered in the control station. This station is located east of the launcher and commands a good view of the range. Provision has been made for easy oral communication and for a visual system of lights in the control station which indicate the state of readiness of remote instrument station." (Jennison 1950:page 29)

One main room, approximately 9'-6" by 15'-6", comprised the working area of the Control Station. Its southwest wall resembles a large bay window allowing three windows that provide an unobstructed view of the VAL firing range. A continuous panel of instruments, lights and gauges lines the wall below the windows. At the rear of this room, opposite the windows, is another wall of instruments and gauges. A small access area is behind these instruments, about 4 feet by 15 feet, allowing for service and maintenance. A small entrance area, 4'-6" by 5'-6", occurs by the only exterior door at the southeast corner of the room. The ceiling height is 8'-6" above the concrete floor. The six inch thick reinforced concrete ceiling also acts as a secondary observation deck above.

The detailing is very simple and functional with a distinct naval feel. The windows have bolted and welded metal frames. The door is a common four panel design. The observation deck provides a 30 inch concrete overhang above the windows. The materials are all in very good shape and appear to be original. No alteration are apparent.

Historical Context: Plans were drawn for the Control Station, in 1947 as part of the original design of the Variable-Angle Launcher. The plans show "Ekman" as the designer with the plans drawn by "Tickel". Plans were approved in June of 1947 with the last revision in November 1947. The building was completed by the dedication ceremony held on May 7, 1948. (Refer to historic photographs of the original drawings and the HAER documentation for the Morris Dam Test Facility for more information.)

Project Information: The historic recordation of the Variable-Angle Launcher is a mitigative recording required by the Memorandum of Agreement between the United States Department of the Navy, the United States Forest Service, California State Historic Preservation Office and the Advisory Council on Historic Preservation prior to the demolition of the Morris Dam Test Facility. Captain Kirk Evans, Commanding Officer, Naval Command, Control and Ocean Surveillance Center (NCCOSC), Research, Development, Test and Evaluation (RDT&E) Division signed the Memorandum of Agreement on 21 September 1994. Mr. Donald Lydy, NCCOSC, RDT&E Division is the Cultural Resource Manager for the project.

This documentation was prepared by the office of Architect Milford Wayne Donaldson, FAIA, Inc. and project architect Brian S. Rickling. The following individuals provided help and information during the researching of this project: Dave Willis, Morris Dam Facilities Manager (NRaD); Randy Peacock, Engineering Technician-Drawing Archives (NRaD); San Corrao, Engineer-in-Charge (NRaD); Don Lydy, Facilities Manager (NRaD); Fred Dawson, Photo/Multimedia Branch (NRaD); Frances Garrison, Photo Lab Librarian (NRaD).